REMARKS

The Office Action mailed on February 25, 2003 has been received and its contents have been carefully reviewed. New claim 22 has been added. Claims 1-2 and 4-22 are pending in this application. Of these claims, claims 1-2, 4-8, 10-11, 13, 15-18 and 21-22 are pending for consideration on the merits, with the other claims being withdrawn at this time.

Claims 1-2, 4, 13, 15, 18, and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,012,513 to Iokawa ("Iokawa") in view of U.S. Patent No. 5,868,198 to Kato ("Kato '198"). Claims 5-8, 10-11 and 16-17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Iokawa in view of Kato '198 and further in view of GB 2064751 to Hooton ("Hooton") in view of U.S. Patent No. 5,535,819 to Matsuura ("Matsuura"). Applicants respectfully traverse this rejection for at least the reasons below.

Claim 1 specifies that the reinforcement hole is the same size or larger than the tube holes. The Office Action contends that this limitation is found in Iokawa. Applicants submit, however, that Iokawa does not disclose this feature of claim 1. Specifically, Iokawa does not specify the relationship of the reinforcement holes and tube holes. Further, the figures (see Figure 1) actually indicate that the reinforcement holes are likely smaller than the tube holes, not the same size or larger as recited in claim 1.

Claim 1 also recites a width of the insertion section member that is "smaller than a width of [the] reinforcement hole as well as larger than a length of the linear section so that [the] insertion section is inserted into [the] reinforcement hole by press-fitting." Thus, the width of the insertion member is: (1) smaller than a width of the reinforcement hole, and (2) larger than a length of the linear section. Neither Iokawa nor Kato, either alone or in combination, suggests this feature of independent claim 1.

The Office Action concedes that Iokawa does not disclose a reinforcement hole with arch sections in a thickness direction or the claimed dimensions. Iokawa discloses a side plate 14 with an end region inserted into a slit hole 20 of the header

12. From Figs. 2 and 4 it appears that the width of the side plate 14 is the same as the width of the slit hole 20. In fact, Iokawa teaches away from using a width of the side plate that is smaller than the slit hole due to problems resulting from the clearance that is created. Iokawa, col. 1, line 66 to col. 2, line 9. Because Iokawa teaches away from the invention, it is improper to use this reference as part of any obviousness rejection. In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). In any event, Iokawa does not disclose that the side plate width is smaller than a width of the slit hole, or larger than a length of a linear section of the hole.

Kato does not cure the deficiencies of Iokawa. Even if Kato were deemed to disclose holes 10 with continuous circular arch sections, Kato discloses, as can be seen from Fig. 2, that the widths of the side plates 8 are larger than either any linear section of the holes 10 or the holes 10 themselves. Specifically, the side plates 8 of Kato fit into the holes 10 up to a region at the ends of the side plates which are tapered. Because the widths of the side plates are larger than the width at this taper, the widths of the side plates 8 must be larger than the widths of the holes 10.

Moreover, there is no motivation to modify Iokawa as suggested in the Office Action. In Iokawa, the side plates 14 are designed to be held in the headers 12 by means of a position regulating means (col. 4, lines 20-24), which Iokawa discloses to be either pawls 21a and 21b (Figs. 2 and 3) or a pawl 31 and convex portion 32 (Figs. 4 and 5) which act to restrict the movement of the side plates 14 relative to the headers 12. Thus, Iokawa suggests that the side plates 14 should move freely as they are inserted into the headers until the position regulating means engages the headers to restrict motion. In Iokawa there is simply no need to include continuous arch sections at the ends of the slit holes 20. The person of ordinary skill in the art has no reason to turn to Kato and employ a different arrangement for holding the side plates in the headers. Without any reason to turn to Kato, there can be no motivation to combine the references.

Furthermore, even if Iokawa and Kato could be properly combined, the combination would not suggest the invention as recited in claim 1, because Kato suggests that in the case of insertion holes with side arch sections, the width of the side plates should be larger than the holes.

With respect to claim 5, the Office Action asserts that Matsuura discloses in Fig. 20 a reinforcement member with a width smaller than that of the fins. Applicants submit that this assertion does not appear to be accurate. For the convenience of the Examiner, applicants have attached Appendix A which includes Fig. 20 of Matsuura. As can be seen in Fig. 20, Matsuura discloses fins 3 and side plate 6 of the same width. Thus, even if Matsuura could be properly combined with Hooton, Iokawa and Kato, the combination would lack at least one feature of the claim 5.

Moreover, there is no motivation for combining Matsuura with the other references as suggested in the Office Action. The apparent motivation provided in the Office Action does not appear to come from Matsuura. Furthermore, there is no reason given for making this specific change (which Matsuura does not even actually suggest) over making some other change (such as reducing the size of the fins, density of the fins, etc.).

In making a case for obviousness, the invention as a whole must be considered including all the limitations of the claims. In the present case, the specific structure as recited in the claims is neither disclosed nor suggested by the references cited in the rejection.

New claim 22 depends from claim 1. Support for new claim 22 can be found at least in Fig. 3 of the present application. New claim 22 recites "wherein a width of a widest portion of said insertion section is made smaller than the width of said reinforcement hole, and wherein a width of a narrowest portion of the insertion section is made larger than the length of the linear section." Claim 22 is further patentable over Kato for this feature. No matter how Kato is construed, at least a portion of his trapezoidal-shaped insertion end portion of his side plate 8 is larger than the width of the reinforcement hole, as clearly seen in Fig. 2 of Kato.

For at least the above reasons, applicants submit that independent claims 1 and 5, and the dependent claims depending therefrom, are patentable over the reference cited in the rejections under 35 U.S.C. 103.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date June 24, 2003 By Thomas G. Bilodeau

FOLEY & LARDNER
Customer Number: 22428
22428
PATENT TRADEMARK OFFICE
Telephone: (202) 945-6162
Facsimile: (202) 672-5399

Pavan K. Agarwal
Attorney for Applicant
Registration No. 40,888

Thomas G. Bilodeau
Attorney for Applicant
Registration No. 43,438